We Claim:

1. A method for deducing parameters of data signals, comprising:
generating data signals using predetermined data sequences;
measuring average voltage of each said data signals; and
deducing said parameters from said average voltages.

2. A method as defined in claim **1**, said parameters being logic voltages and rise and fall times.

3. A method as defined in claim **1**, when said parameters are the difference between two logic levels, said measuring average voltages of each said data signals, including:

(a) measuring average voltage for a periodic pattern containing a number of consecutive same-value logic values;

(b) measuring average voltage for a pattern containing a different number of consecutive same-value logic values; and

said deducing said parameters including:

(c) performing a calculation based on measured average voltages to deduce the difference between two logic levels.

4. A method as defined in claim **3**, further including, performing said calculation before performing step (b); and, after performing step (b), comparing the average voltage measured in step (b) to an expected average voltage that would produce an acceptable difference between said two logic levels.

5. A method as defined in claim **1**, wherein when said parameters are the difference between effective rise and fall transition times, said measuring average voltages including:

(a) measuring average voltage for a periodic pattern containing a number of consecutive same-value logic values;

(b) measuring average voltage for a pattern in which the number of consecutive same-value logic values are split in two or more groups of same-value logic values; and

said deducing said parameters including:

(c) performing a calculation based on measured average voltages to obtain the difference between effective rise and fall transition times.

6. A method according to claim **5**, further including, performing said calculation before step (b); and after performing step (b), comparing the average voltage measured in step (b) to an expected average voltage that would produce an acceptable difference between effective rise and fall transition times.

7. A method as defined in claim **1**, wherein when said parameters are rise and fall transition times, said measuring average voltages includes:

(a) measuring average voltage for a periodic pattern containing a number of consecutive same-value logic values;

(b) measuring average voltage for a pattern containing a different number of consecutive same value logic values;

(c) measuring average voltage for a pattern in which said number of consecutive same-value logic values is split into two or more groups of same-value logic values;

(d) measuring average voltage for a pattern containing one or more isolated logic values surrounded by the opposite logic value; and

said deducing said parameters including:

(e) performing a calculation based on measured average voltages to obtain rise and fall transition times.

8. A method as defined in claim **7**, further including performing said calculation before step (d) and, after performing step (d), comparing the average voltage measured in step (d) to an expected average voltage that would produce acceptable rise and fall transition times.

9. A method of testing a digital circuit, comprising deducing parameters as defined in claim **1** and comparing deduced parameter values against expected parameter values to determine whether said digital circuit passes or fails.

10. A method of testing an analog circuit, comprising deducing parameters as defined in claim **1** and comparing deduced parameter values against expected parameter values to determine whether said analog circuit passes or fails.

11. A method as defined in claim **1**, further including:

comparing deduced logic voltages and rise and fall times values of a circuit output signal to deduced logic voltages and rise and fall times values of a circuit input signal to determine circuit gain or frequency response.